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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/900,961	07/10/2001	Kunio Shimizu	02860.0683	7969

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FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER
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EXAMINER

HON, SOW FUN

ART UNIT

PAPER NUMBER

1772

DATE MAILED: 08/26/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/900,961

Applicant(s)

SHIMIZU ET AL.

Examiner

Sow-Fun Hon

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 June 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 15-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 15-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

Rejections Withdrawn

1. The 35 U.S.C. 112,2nd paragraph and 102(b), 103(a) rejections have been rendered moot due to Applicant's cancellation of said claims 1-14, 17, and due to Applicant's amendment of claims 15-16 in Paper # 4 (filed 06/18/03).

New Rejections

Claim Rejections - 35 USC § 103

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 15-16, 18-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iwashita et al. in view of Mercurio et al., as evidenced by Mark (Encyclopedia of Polymer Science and Engineering).

Iwashita et al. teaches a liquid crystal display comprising a first polarizing plate, a second polarizing plate, and a liquid crystal cell provided between the first and second polarizing plates, the second polarizing plate being arranged on the viewer side of the display, wherein the first polarizing plate has a first film, a second film and a first polarizing film between the first and second film so that the second film is provided on the first polarizing film on the liquid crystal cell side, the second polarizing plate has a third film, a fourth film and a second polarizing film between the third and fourth films so that the third film is provided on the second polarizing film on the liquid crystal cell side, and the first, second, third and fourth films comprise cellulose

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ester (acetate) (See Figure 1. The polarizing plate is obtained by sandwiching (protecting) the polarizing film between two cellulose ester (triacetate) films) (column 4, lines 55-70 and column 6, lines 25-35).

Iwashita et al., however, fails to teach that the cellulose ester film contains the methyl acrylate polymer having an average molecular weight of not more than 5,000.

Mercurio et al. has a 50 micron (μm) (2 mil) film (column 16, lines 10-20) cast from cellulose ester (acetate butyrate) and methyl methacrylate oligomer (column 16, lines 45-55). An oligomer is a very low molecular weight polymer of several monomer units, having a number average chain length of up to 25 mers (abstract), so that the low molecular weight polymer of methyl methacrylate has a weight average molecular weight of not more than 5,000, or about 400 to about 2,500 (column 2, lines 1-50). The amount of methyl acrylate (methacrylate) in the film is at least 30 % (column 13, lines 1-25). A functional group taught is hydroxy (hydroxyalkyl substituted derivative) (column 3, lines 1-20) which is water-solubilizing. The content of the polymer (oligomer) in the film is 30 weight % (the rest are solvents according to the statement in brackets) (column 16, lines 55-70). The film further contains fine particles (pigments, fillers) (column 9, lines 10-30).

Mercurio et al. teaches that the methyl acrylate polymer is added to cellulose ester in order to modify the flow properties of the cellulose ester (for greater flexibility and hence lower brittleness) and yet not to plasticize it to any appreciable extent in order to allow it to retain its hardness (column 1, lines 45-60). Hence it would have been obvious to one of ordinary skill in the art to have used the cellulose ester film of Mercurio et al. as the cellulose ester protective

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film in the polarizing plate laminate in the invention of Iwashita et al. in order to obtain a tougher polarizing plate laminate.

Since Mercurio et al. is directed to improving the mechanical properties of the cellulose ester film and Iwashita et al. teaches that the cellulose ester (acetate) film has a protective function (for the polarizing plate), the two are analogous art because the improvement in mechanical properties increases the effectiveness of the protective function of the cellulose ester film.

Since Mark provides data on various cellulose esters and shows that a water absorption of not more than 2 % after 24 hours is observed in cellulose acetate, cellulose acetate butyrate or cellulose acetate propionate (page 83), in the absence of valid data, the examiner has taken the position that since cellulose acetate butyrate or cellulose acetate propionate comprises around 70 % of the film, a 40 micron thick cellulose ester film of Mercurio et al. has a rate of mass change of not more than 2 % as measured at $23 \pm 3^{\circ}\text{C}$ and at $55 \pm 3\%$ RH after the film has been stored at $80 \pm 3^{\circ}\text{C}$ and at $90 \pm 3\%$ RH for 48 hours, and then stored at $23 \pm 3^{\circ}\text{C}$ and at $55 \pm 3\%$ RH for 24 hours. Furthermore, in light of the water absorption data, in the absence of valid data, it is also the examiner's position that the cellulose ester film has a moisture vapor transmittance of not more than $250 \text{ g/m}^2 \cdot 24 \text{ h}$ at $80 \pm 5^{\circ}\text{C}$ and at $90 \pm 5\%$ RH.

Response to Arguments

4. Applicant's arguments with respect to claims 15-16 have been considered but are moot in view of the new ground(s) of rejection.

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5. Applicant's declaration in Paper # 3 (filed 06/18/03) has been fully considered but deemed unpersuasive. Applicant argues that the data presented show unexpected results even in light of the cited reference combination of Iwashita et al. in view of Mercurio et al. Applicant is respectfully apprised that no data was presented for films made from the composition of Mercurio et al. Hence the data presented in the declaration was not commensurate in scope of the cited reference combination of Iwashita et al. in view of Mercurio et al.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication should be directed to Sow-Fun Hon whose telephone number is (703)308-3265. The examiner can normally be reached Monday to Friday from 9:00 AM to 6:00 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon, can be reached on (703)308-4251. The fax phone number for the organization where this application or proceeding is assigned is (703)872-9311.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0661.

SH
Sow-Fun Hon
08/14/03

[Signature]
HAROLD PYON
SUPERVISORY PATENT EXAMINER
1772

8/8/03

REFERENCE COPYING

SPECIAL INSTRUCTIONS

DATE

08/14/03

APPLICATION SERIAL NUMBER

09/900,961

NUMBER OF COPIES: Standard copy production for regular applications is 2 copies; for PCT applications it is 4 copies. If additional copies are required please see note below.

ADDITIONAL COPIES REQUIRED

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OTHER: